AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions and listings of claims in the application.

Listing of Claims

1. (Currently amended): Method for determining ~~the~~ an exchange ~~surface~~ area A between a reagent and ~~the~~ a wall of a housing containing this reagent, in order to determine in particular ~~the~~ a power P_r of a thermal reaction inside the housing and ~~the thermal~~ a heat exchange coefficient U between the reagent and the wall of the housing,

comprising:

- measuring a first heat flux F_1 per surface unit taken in a first zone of the wall in secure contact with the reagent,

- measuring a second heat flux F_2 per surface unit taken in a second zone of the wall in secure absence of contact with the reagent,

- measuring a third heat flux F_3 per surface unit taken in a third zone of the wall comprising, in a continuously overlapping manner, both ~~any~~ a zone of the wall in secure contact with the reagent next to ~~any~~ a zone of the wall in secure absence of contact with the reagent,

- calculating, ~~proportionally between~~ based on proportions of the measurements of the first, second, and third heat flux which have been carried out, the ~~real~~ actual level h of the reagent inside the housing,

~~so that, from the real level h of the reagent which has been calculated, and with respect to~~

~~any given geometry of the housing,~~ so that the ~~real~~ actual exchange ~~surface~~ area A between the reagent and the wall of the housing containing this reagent can be determined continuously and in real time, based on the calculated actual level h of the reagent, and with respect to any given geometry of the housing.

2. (Currently amended): Method according to claim 1, applied to the determination of the power P_t transmitted by the housing,

comprising:

- measuring the first heat flux ~~F1~~ F_1 per surface unit,

- determining the ~~said~~ exchange ~~surface~~ area A between the reagent and the wall of the housing,

so that the power P_t transmitted by the housing can be calculated, continuously and in real time, with a precision and a reliability ~~obtained~~ derived from those of the exchange ~~surface~~ area A.

3. (Currently amended): Method according to claim 2, applied to the determination of the ~~thermal~~ heat exchange coefficient U between the reagent and the wall of the housing,

comprising:

- measuring the temperature T_r of the reagent and the temperature T_e of the wall of the housing,

- determining the ~~real~~ actual exchange ~~surface~~ area A between the reagent and the wall of

the housing,

- calculating the power P_t transmitted by the housing,

so that the ~~thermal~~ heat exchange coefficient ~~A~~ U between the reagent and the wall of the housing can be calculated continuously and in real time, with a precision and a reliability ~~obtained~~ derived from those of the exchange ~~surface~~ area A.

4. (Currently amended): Method according to claim 2, applied to the determination of the power P_r of the reaction,

comprising:

- measuring the evolution of the temperature T_r of the reagent as a function of the reaction time,

- determining the power P_t transmitted by the housing,

- estimating the thermal losses of the housing,

so that the power P_r of the reaction can be calculated, continuously and in real time, with a precision and a reliability ~~obtained~~ derived from those of the exchange ~~surface~~ area A.

5. (Currently amended): Method according to claim 1, applied to the measurement of the variation of the level h of a reagent inside a housing, until a security threshold is reached.

6. (Currently amended): Device for measuring ~~the~~ an exchange ~~surface~~ area A between a reagent and ~~the~~ a wall of a housing containing this reagent,

comprising:

- a housing designed to receive the reagent,

- a first heat flux sensor for measuring the first heat flux F_1 per surface unit, this heat flux sensor being ~~disposed on~~ arranged at the external wall of the housing in a zone opposed to a first zone of its internal face [[,]] in secure contact with the reagent,

- a second heat flux sensor for measuring the second heat flux F_2 per surface unit, this heat flux sensor being ~~disposed on~~ arranged at the external wall of the housing in a zone opposed to a second zone of its internal face [[,]] in secure absence of contact with the reagent,

- a third heat flux sensor for measuring the third heat flux F_3 per surface unit, this heat flux sensor being ~~disposed on~~ arranged at the external wall of the housing in a zone opposed to a third zone of its internal face, said third zone being both in presence and in absence of contact with the reagent.

7. (Currently amended): Device according to claim 6,

comprising first electronic means for calculating the level h of the reagent ~~form~~ from logical ~~tension~~ voltage data provided by the first, second, and third flux sensors, and second electronic means for calculating the ~~real~~ actual exchange ~~surface~~ area A between the reagent and the wall of the housing.

8. (Currently amended): Device according to claim 6, applied to a calorimeter,

comprising ~~an envelope~~ a jacket surrounding the housing for the circulation of a fluid

around this housing, this fluid being thermostatted by heat-producing means ~~for producing heat~~, so as to maintain the housing at a desired temperature.

9. (Currently amended): Device according to claim 8,

comprising:

- a first temperature sensor placed inside the housing to measure the temperature T_r of the reagent,

- a second temperature sensor placed inside the ~~envelope~~ jacket to measure the temperature T_e of the wall of the housing from the temperature T_f of the thermostatted heat-~~exchanging~~ transfer fluid inside the ~~envelope~~ jacket.

10. (Currently amended): Device according to claim 9,

comprising third electronic means for calculating the power P_t transmitted by the housing and fourth electronic means for calculating the ~~thermal~~ heat exchange coefficient [[A]] U between the reagent and the wall of the housing, from the logical data provided by the second electronic calculation means and from the logical data provided by the first and second temperature sensors.

11. (Currently amended): Device according to claim ~~9~~ 10, comprising fifth electronic means for calculating the power P_r of the thermal reaction from the logical data provided by the third electronic calculation means and by the first temperature sensor.

12. (Previously presented): Device according to claim 6,

wherein the first, second, and third heat flux sensors constitute general means for determining continuously the level h of a reagent inside the housing, in association with the first calculation means.

13. (Currently amended): Device according to claim 7, comprising third electronic means for calculating the power P_t transmitted by the housing, fourth electronic means for calculating the ~~thermal~~ heat exchange coefficient [[A]] U between the reagent and the wall of the housing, from the logical data provided by the second electronic calculation means and from the logical data provided by the first and second temperature sensors, and fifth electronic means for calculating the power P_r of the thermal reaction from the logical data provided by the third electronic calculation means and by the first temperature sensor, [[,]]

wherein the first, second, third, fourth, and fifth electronic calculation means are grouped in general memory and electronic calculation means.

14. (Previously presented): Device according to claim 13, comprising a calculator comprising:

- general memory and electronic calculation means,

- means for displaying various measured and calculated logical data,

- means for capturing data and controlling the general memory and electronic calculation means.